

ABSTRACT OF THE DISCLOSURE

Apparatus and methods are disclosed for use within an image-guided surgical navigation system for facilitating the combined positioning and orientation of multiple surgical implements. A tool guide having multiple cannulas is tracked by a surgical navigation system in real time. Position data of the tool guide is registered and combined with pre-acquired images by the navigation computer. Concurrent graphical representations of the plurality of cannulas are superimposed over the images and displayed. The display allows the surgeon to place the tool guide into the patient's body and position and orient the plurality of cannulas which are then used to place each of the implements.